

WHAT IS CLAIMED IS:

1. A disposable diaper comprising:
 - a top sheet facing the wearer;
 - 5 a liquid impervious back sheet facing away from the wearer;
 - a liquid absorbent core disposed between said top and back sheets;
 - 10 a front waist region;
 - a back waist region;
 - 15 a crotch region which is positioned between said front and back waist regions;
 - end flaps which are outside respective end edges of said core and extend in a transverse direction of said diaper therefrom;
 - side flaps which are outside respective side edges of said core and extend in said longitudinal direction of said diaper therefrom; and
 - openings which pass through a thickness of said top sheet and said core and are formed in at least said crotch region out of said front and back waist regions and said crotch region;
 - wherein said back sheet has a free portion which is underneath said core and extendible downwards in a thickness

- 31 -

direction of said diaper, and fixed edge portions which defines an outer periphery of said free portion and fixed to said top sheet;

wherein at least said free portion out of said free portion
5 and said fixed edge portion is contractibly attached with a plurality of elastic members which are arranged in said transverse direction of said diaper at a given interval; and
wherein a plurality of gathers extending in said transverse direction are formed under contraction of said
10 elastic members.

2. The disposable diaper of Claim 1 wherein said top sheet is stretchable/contractible.

15 3. The disposable diaper of Claim 1 or 2 wherein said back sheet is smaller in area than said top sheet and a greater part of said side flaps is formed out of the side portions of said top sheet which extend outwards from respective side edges of said core in said transverse direction.

20

4. The disposable diaper of Claim 2 or 3 wherein a greater part of said end flaps is formed out of the end portions of said top sheet which extend outwards from respective end edges of

said core in said longitudinal direction.

5. The disposable diaper of any one of Claims 1 - 3 wherein a longitudinal dimension of said back sheet, when said gathers are extended in said longitudinal direction against a contracting force of said elastic members, ranges 1.05 to 4.0 times a longitudinal dimension of said back sheet in a state in which the gathers are formed.
- 10 6. The disposable diaper of any one of Claims 1 - 5 wherein a tensile stress of said elastic member ranges 0.098 to 1.96 N when stretched to 100 % of its initial length.
- 15 7. The disposable diaper of any one of Claims 1 - 6 wherein a plurality of pleats extending in said longitudinal direction are further formed in said back sheet by folding said back sheet in said transverse direction with said pleats being arranged at a given interval in said transverse direction.
- 20 8. The disposable diaper of Claim 7 wherein a transverse dimension of said back sheet, when said pleats are extended in said transverse direction, ranges 1.5 to 3.0 times that of said back sheet in a state where said pleats are formed.

- 33 -

9. The disposable diaper of any one of Claims 1 - 8 said back sheet comprises one of a composite sheet made of a hydrophobic nonwoven fabric and a breathable but liquid impervious plastic film overlaid and joined together and a composite nonwoven 5 fabric made of a plurality of hydrophobic nonwoven fabrics overlaid and joined together.